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APPLICATION FOR LETTERS PATENT
UNITED STATES OF AMERICA

We, Heinz **FOCKE** (deceased), a citizen of Germany residing at Moorstrasse 64, 27283 Verden, Germany, Hans-Jurgen **BRETTHAUER**, a citizen of Germany residing at Mockernstrasse 62, 28201 Bremen, Germany, and Karsten **MUTSCHALL**, a citizen of Germany residing at 489 Weymouth Drive, Wyckoff, New Jersey 07481 United States of America, have invented certain new and useful improvements in a

CIGARETTE PACK COMPRISING A SLIDE AND CASE

of which the following is a specification.

The above-captioned patent application is the Unites States Patent Cooperation Treaty (PCT) Chapter II National Phase of International Application No. PCT/EP03/03754, having an International Application Date of 11 April 2003, which in turn claims priority on German Patent Application No. 10218558.1, having a filing date of 25 April 2002, designating the United States of America.

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CIGARETTE PACK COMPRISING A SLIDE AND CASE**STATEMENT OF RELATED APPLICATIONS**

5 The above-captioned patent application is the United States Patent Cooperation Treaty (PCT) Chapter II National Phase of International Application No. PCT/EP03/03754, having an International Application Date of 11 April 2003, which in turn claims priority on German Patent Application No. 10218558.1, having a filing date of 25 April 2002, designating the United States of America.

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BACKGROUND OF THE INVENTION**1. Technical Field**

15 The invention relates to a pack having a slide and an outer shell which at least partially encloses the slide, is open at both ends and is intended, in particular, for accommodating a cigarette group, the slide having at least one base wall.

2. Prior Art

20

Cigarette packs configured with shells and slides are known internationally, although up until now they have not been used as widely for cigarettes as hinge-lid boxes or soft-carton packs. In the case of slide and shell packs, the cigarette group is enclosed by an inner blank made of tin foil or paper. The resulting
25 cigarette block is seated in the slide comprising a base wall, side walls and an end flap and closure flap. For removal of the pack contents, the slide is pushed part of the way out of the shell, with the result that the pack contents are exposed in the region of the closure flap.

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BRIEF SUMMARY OF THE INVENTION

The object of the invention is to improve the handling of packs, in particular cigarette packs, of the slide and shell type without changing the outer appearance or increasing the production outlay.

In order to achieve this object, the pack according to the invention is characterized in that, as a result of stops or connecting means arranged within the shell, the slide can only be pushed to a limited extent out of the shell. The stops or connecting means preferably take effect such that, on the one hand, the slide can be moved into a predetermined open position and, on the other hand, the closed position is defined such that it terminates flush with the shell.

In the case of an advantageous embodiment, at least one stop is arranged on the slide, this stop interacting with one or two mating stops in the interior of the shell. The stop of the shell is formed by a stop flap which is formed part of the base wall or in the region of side flaps. In the case of a particular configuration of the invention, the mating stops are formed by peripheries of a recess which is produced by being punched out of overlapping folding tabs or connecting tabs of the shell.

As an alternative, a deformable, elastic connecting means is provided, within the shell, between the slide and shell. This connecting means limits the movement amplitude of the slide.

BRIEF DESCRIPTION OF THE DRAWINGS

Exemplary embodiments of the pack are explained in more detail hereinbelow with reference to the drawings, in which:

Figure 1 shows a perspective illustration of a cigarette pack with a slide and shell in the open position,

- Figure 2 shows a blank for a slide in the spread-out position,
- Figure 3 shows a spread-out blank of a shell,
- 5 Figure 4 shows the longitudinal section of the pack according to figure 1, in the closed position,
- Figure 5 shows a plan view, partly in section, of the pack according to figure 4, in the open position,
- 10 Figure 6 shows part of the pack according to figure 5 along a cross-sectional plane VI-VI from figure 4,
- Figure 7 shows an illustration, analogous to figure 1, of another exemplary embodiment of the pack,
- 15 Figure 8 shows a spread-out blank of a slide for the pack according to figure 7,
- Figure 9 shows a spread-out blank of a shell for the pack according to figure 7,
- 20 Figure 10 shows a plan view, on an enlarged scale and in the open position, of the pack according to figure 7,
- 25 Figure 11 shows a longitudinal section through the pack according to figure 10 along section plane XI-XI,
- Figure 12 shows, on an enlarged scale, a detail of the pack according to figure 11 in cross section along section plane XII-XII,
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Figure 13 shows a detail of the pack according to figure 12 along section plane XIII-XIII,

5 Figure 14 shows a further embodiment of a slide and shell pack in vertical section, in the closed position, and

Figure 15 shows the pack according to figure 14 in the open position.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

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The packs of the slide and shell type which are shown comprise two parts, namely an outer shell 10 and a slide 11 which can be moved therein, both being made, in particular, of thin cardboard.

15 A cigarette group 12 comprising two rows of cigarettes is shown as the content of the pack. The cigarette group 12 is enclosed by an inner blank 13 and thus forms a cigarette block, which fits in the pack.

20 The shell 10 and slide 11 each comprise separate blanks. In the case of the exemplary embodiment according to figures 1 to 6, the slide 11 comprises a supporting wall or base wall 14 and mutually opposite insertion flaps, namely a closure flap 15 and an opposite end flap 16. Side flaps 17, 18 are provided laterally on the base wall 14. Once folding of the slide 11 has been finished, these side flaps are folded into an upright position, with the result that the slide 11
25 has a U-shaped cross section in the region of the base wall 14.

The closure flap 15 comprises an end wall 19 and an insertion flap 20 adjoining the same. Punch cuts 21 delimit the closure flap 15 from the side flaps 17, 18, with an intermediate wall 22 being formed in the process. The individual regions
30 or blank walls are delimited from one another by folding lines, which are illustrated in the drawings by dashed lines.

The end flap 16 comprises two regions, namely an end wall 23 and an insertion flap 24 adjoining the same.

As can be seen from figure 4 in particular, the pack contents – cigarette block – are/is at least partially enclosed by the slide 11 on all sides in the closed position of the pack. The end wall 19 butts against one end of the cigarettes or of the cigarette block – in the region of filters in the case of filter cigarettes – while the end wall 23 butts against opposite ends of the cigarettes in the cigarette block. The insertion flaps 20 and 24 butt against the cigarette block on the side which is located opposite the base wall 14.

The shell 10 forms a top wall 25, a bottom wall 26 located opposite the latter, and narrow, elongate side walls 27, 28. In order to form a hollow body of rectangular cross section which is open at both ends, a peripheral tab 29 of the blank of the shell 10 is connected, namely adhesively bonded, to a free peripheral region of the bottom wall 26. The peripheral tab 29 here butts against the inside of the bottom wall 26. The shell 10 encloses the slide 11 together with the cigarette block such that the base wall 14 butts against the inside of the bottom wall 26. The side flaps 17, 18 are in contact with the inside of the side walls 27, 28.

The pack is designed such that at least one end position of the slide 11 relative to the shell 10, but preferably two end positions thereof, is/are fixed by elements arranged in a concealed manner on the inside. One of these positions is an open position corresponding to figures 1 and 2. In this case, the slide 11 projects out of the shell 10 to the extent where free access to the cigarette group 12 is possible – following prior removal of a flap of the inner blank 13. The closed position (figure 4) is likewise fixed, that is say a position in which the slide 11 terminates flush with the shell 10.

One special feature is the end positions of the slide 11 being provided with the aid of stops and mating stops. According to figures 1 to 6, a stop tab 30 is formed laterally on the slide 11 as part of the slide 11. Punching 31, which bounds the

stop tab 30, is provided in the region of the base wall 14 of the slide 11. The stop tab 30 extends as far as the slide flap 18. When the pack is used, two mutually opposite stop edges 32 and 33 of the stop tab 30 can take effect.

- 5 Mating elements, namely mating stops, are formed on the inside of the shell 10, in the present case in the region of the bottom wall 26. The mating stop is part of the peripheral tab 29 or is formed by the latter. The peripheral tab 29, which rests on the bottom wall 26 on the inside, is provided with an (open) recess 34, of which the transversely directed peripheries or edges act as a mating stop, to be precise
10 as an opening stop 35 and closing stop 36.

- Once folding of the pack has been finished and the pack has been assembled, the stop tab 30 is located in the region of the recess 34. The stop tab 30 is directed obliquely, that is to say passes out of the plane of the base wall 14 in the
15 downward direction and projects into the recess 34. The position of the stop tab 30 is produced by the material properties, since the stop tab 30 extends as far as a folding edge 37 between the base wall 14 and side tab 18. The projecting region of the stop tab 30 can be displaced within the recess 34, during actuating of the slide 11, until, during an opening movement, the stop edge 32 butts against
20 the associated mating stop, namely against the opening stop 35, and thus fixes the end position. In the case of movement in the opposite direction, the stop edge 33 comes into abutment against the closing stop 36 in accordance with the closed position of the slide 11.

- 25 The stop edge 33 and, correspondingly, the edge of the closing stop 36 are directed obliquely. This makes it easier for the slide 11 to be introduced into the shell 10 when the pack is assembled. The stop edge 33, which is located at the front when the slide is pushed in, can be introduced into the shell 10 without catching, until the stop tab 30 is positioned within the recess 34.

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In the case of the exemplary embodiment according to figures 7 to 13, a special feature of the pack is constituted by the configuration of the slide 11. The latter

comprises the base wall 14, the closure flap 15 and the end flap 16, but does not have any side flaps. The stop system of the pack acts in the region of the side flaps, that is to say in a plane running transversely to the base wall 14. For this purpose, a projecting stop tab 30, which in this example is of rectangular design, is arranged on a free periphery of the base wall 14. For the material-saving production of blanks for slides 11 in the configuration according to figure 8, the stop tab 30 has a punched-out portion 38 of the same shape and size formed opposite it.

The shell 10 is also designed in a particular manner, that is to say it has a second peripheral tab 39, located opposite the peripheral tab 29. The two peripheral tabs 29 and 39 together form the side wall 28 of the shell 10, the peripheral tabs 29, 30 overlapping one another and being connected to one another by adhesive bonding or the like. The peripheral tab 39 is located on the outside and extends over the entire height and/or width of the side wall 28.

The inner peripheral tab 29 interacts with the stop tab 30 and has an open recess 34 for this purpose. This recess is rectangular and forms transversely directed stops, namely the opening stop 35 and closing stop 36.

One stop, namely the opening stop 35, is designed in a particular manner, to be precise is bounded by a short incision 40 and is thus provided with an exposed endpiece 41. The latter is deformed inwards (figure 13) and thus forms a particularly effective and impassable stop for the stop edge 32 of the stop tab 30.

The pack according to figures 14 and 15 is provided with an element of fundamentally different design for defining end positions of the slide 11. This element is a connecting flap 42 which is provided within the shell 10, between the slide 11 on the one hand and the shell 10 on the other hand. In the case of the exemplary embodiment shown, the connecting flap 42 is positioned in a region which is directed away from the closure flap 15. One end region of the connecting flap 42 is connected to the base wall 14 of the slide 11 and another end region is

connected to the bottom wall 26 of the shell 10, in the present case by way of areas of glue 43, 44. The connecting flap 42 consists of a thin, flexible material, for example tear-resistant paper, film or the like. During movement of the slide 11 within the shell, the connecting flap 42 is moved from one straightened-out position into another. One straightened-out position defines the closed position (figure 14) and the other straightened-out position defines the open position (figure 15). In the case of the exemplary embodiment shown, the connecting flap 42 is designed as a double-layered element, namely as a closed loop, which forms legs lying flatly against one another. As an alternative, the connecting flap 42 may be of single-layered design.

List of designations

	10	shell
	11	slide
5	12	cigarette group
	13	inner blank
	14	base wall
	15	closure flap
	16	end flap
10	17	side flap
	18	side flap
	19	end wall
	20	insertion flap
	21	punch cut
15	22	intermediate wall
	23	end wall
	24	insertion flap
	25	top wall
	26	bottom wall
20	27	side wall
	28	side wall
	29	peripheral tab
	30	stop tab
	31	punching
25	32	stop edge
	33	stop edge
	34	recess
	35	opening stop
	36	closing stop
30	37	folding edge
	38	punched-out portion
	39	peripheral tab

- 40 incision
- 41 end piece
- 42 connecting flap
- 43 area of glue
- 5 44 area of glue